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ABSTRACT

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defeats the purpose of schooling. This study investigated the sources and
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defined here as social support for achievement in diverse learning
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intellectual school culture results, reinforcing the professional community
and offering a solid basis for social support for student achievement and
authentic pedagogy. Findings demonstrate that developing an affiliative
environment for students and involving them in challenging and engaging work
of high intellectual quality are not at odds. An appendix provides an
overview of nine schools of particular interest. (Contains 1 table, 2
figures, and 24 references.) (Author/SLD)

SOCIAL SUPPORT FOR ACHIEVEMENT:

BUILDING INTELLECTUAL CULTURE IN RESTRUCTURING SCHOOLS

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Abstract

The need for students to experience affiliation and membership is a strong theme in recent thinking on school reform. But affiliation without concern for students' intellectual work and growth defeats the purpose of schooling. This study investigates the sources and mechanisms that sustain intellectually focused affiliation among students, defined here as social support for achievement. The study examines variation in social support for achievement in diverse learning environments, drawing on observational research, case studies, teacher and student survey data, and essays written by students from an intensive study of 24 nationally selected restructuring elementary, middle, and high schools. When teachers build strong professional community around a conception of intellectual quality, an intellectual school culture results, reinforcing the professional community and offering a solid basis for social support for student achievement and authentic pedagogy. The study demonstrates that developing an affiliative environment for students and involving them in challenging and engaging work of high intellectual quality are not at odds.

Affiliation is a traditional conception of the community students experience in school -- that is, their feelings of connectedness to each other, to teachers and other staff, and to the organization and its activities (e.g., Peshkin, 1991). When affiliation is so defined, however, its connection to learning is tenuous at best (Wehlage, Rutter, Smith, Lesko & Fernandez, 1989). If the basis for students' affiliation does not include concern for intellectual work and growth, this defeats the point of schooling (Sizer, 1984, 1992). An intellectual component is also essential, we contend, if affiliation is to enhance students' capacity to learn.

Social support for achievement, by definition, supplies such an intellectual focus. Affiliative relations are a basic component, but its hallmark is support for intellectual work and higher-order learning among teachers and students. Social support for achievement occurs when teachers build strong professional community around a conception of intellectual quality and students support each other in the hard work such learning entails. Where professional community is weak or absent, social support for achievement languishes. Professional community and social support for achievement are closely linked, with student attitudes toward learning hinging on the normative environment teachers establish (Marks, Doane & Secada,1996).

We examined the variation in social support for achievement in diverse learning environments, drawing on observational research, case studies, teacher and student survey data, and essays written by students from an intensive study of 24 nationally selected restructuring elementary, middle, and high schools (the School Restructuring Study or SRS). While these restructuring schools all attempted to increase student achievement through structural innovations (e.g., team teaching, block scheduling, heterogeneous grouping), their success in improving student performance varied sharply (Newmann & Associates,1996). Structural changes alone did not explain the success of some schools in organizing their resources to generate student achievement of intellectual quality. Rather the study pointed to intervening cultural variables. School culture focusing on the intellect interacted positively with

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structural innovation. Professional community among teachers proved to be the engine of such an intellectually-focused school culture. Typically organized around a shared vision for student learning, professional community transformed the experience of school for students.

This study extends the findings of the earlier research in three ways. *First*, we offer closer scrutiny of nine of the 24 SRS schools, selected to represent varying levels of social support for achievement in elementary, middle, and high schools. By focusing on these nine schools, we are able to give fuller attention to the mechanisms by which the degree and character of teachers' professional community inform school culture in diverse local contexts. Working from these examples, we develop a conceptual model of school culture, which accounts for the interaction of professional community, school culture, and social support for achievement, and locates these components in relation to authentic pedagogy and achievement.

Second, we attempt to identify the processes through which professional community among teachers creates and sustains a culture of social support for achievement in schools and classrooms. In so doing, we contribute to a research stream that has examined the relationship of school organization and culture to the core technology of teaching and learning (for example, McNeil, 1986; Metz, 1986; Bryk, Lee & Holland, 1993). Previous studies in this domain have documented the pervasiveness of the prevailing school culture -- the culture of control in bureaucratic organizations (McNeil); the varying cultures of professionalism deriving from teachers' mutually shared values, attitudes, and ideologies in organizationally innovative magnet schools (Metz); and the culture of caring characteristic of the communal organization of Catholic schools (Bryk et al.).

Third, we confirm these earlier findings and extend them as they relate to the unique contexts of restructuring schools, which undertake structural changes to enhance the learning environment of schools for both teachers and students. Positing structural changes as insufficient to improve student achievement, we add a new dimension to this research by demonstrating how the normative

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commitments teachers share can create a powerful intellectual culture in schools, a culture that infuses

their classrooms and, consequently, largely determines the intellectual quality of student learning.

Theoretical Perspective

Affiliative School Environments and Student Learning

The need for students to experience affiliation and membership is a strong theme in recent

thinking on school reform (e.g., Bryk & Driscoll, 1988; Carnegie Council on Adolescent

Development, 1989; National Association of Secondary School Principals, 1996; Newmann, 1992).

According to some scholars and school reformers, the bureaucratic organization characteristic of U.S.

public education is inimical to students' sense of school affiliation and membership (Sedlak, Wheeler,

Pullin & Cusick, 1986; Lee & Smith, 1995; Marks, 1995). A typical pupil, regarded generically as

"one of the kids," can pass through a routinized and impersonal school scarcely known by teachers and

emerge largely uneducated when measured by reform-based standards (Sizer, 1992).

The concern for developing more affiliative school environments makes sense, especially given

the well-documented problems of bureaucratized schools (Cusick, 1983; Powell, Farrar & Cohen,

1985; Sedlak et al., 1989; Sizer, 1984, 1992). In smaller, personalized school environments, affiliation

is more likely to develop because students and teachers can get to know and trust one another (Carnegie

Council on Adolescent Development, 1989; National Association of Secondary School Principals,

1996). Affiliation of this sort allows students to form social bonds more deeply connecting them with

their schools. But unless affiliation is explicitly linked to the intellectual purposes of school, student

learning seems unlikely to benefit (Wehlage et al. 1989).

Transforming bureaucratically organized schools. In their attempt to fashion themselves

into more hospitable places for students, schools often make substantial structural and programmatic

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changes. Reducing large school size by introducing a "school-within-a-school" or a house system, for example, is a structural adaptation aimed at developing affiliation. Linking students with teachers and other adults at school who get to know them well is the intent behind such innovations as advisories or mentoring. Community-based education attempts to eliminate the "academic" nature of school learning.

Schools engaged in reform, almost by definition, tend to adopt innovations of this sort as a means to improving themselves. As part of the selection process for participation in the SRS, for example, nominated schools had to indicate whether they had incorporated various structural innovations, among them nine that we regarded as geared to promoting affiliation.[1] Of 300 schools nominated, 299 reported having at least one such innovation; 214, five or more; 18, all but one; and 4, all nine innovations. As we would later find in our research on the 24 schools ultimately selected for participation in the SRS study, their emphasis on affiliation often lacked intellectual grounding. Focusing primarily on students' affiliative needs, schools did not necessarily link social support to achievement.

The limits of focusing on affiliation. Because they reduce the impersonality of bureaucratic organization, affiliative features make schools more hospitable to students and enhance students' sense of relationship with their school and with each other. While such changes may personalize the school environment and make school a more pleasant place to be, restructuring that ends with affiliation-oriented change sidesteps the central issue of building an intellectual culture in the school community. The failure of these schools to develop an intellectual culture suggests that affiliation can become an end itself. That is, affiliation displaces the impersonalism of the bureaucracy without altering the underlying anti- or non-intellectual school culture.

Beyond facilitating social affiliation, we argue, schools need to promote specific expectations for high achievement and to direct affiliative support toward these ends. As Wehlage and colleagues

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(1989) noted in their study of at-risk students, their teachers tended to regard social membership as an end in itself. Ironically, by focusing on that limited objective -- promoting the at-risk students' experience of social membership -- they failed to nurture these students' experience of intellectual membership. Membership of this sort -- intellectual affiliation or social support for achievement -- is oriented to learning, encouraging and supporting students to develop and deepen a range of higher order intellectual competencies.

Social support for achievement and authentic pedagogy. Social support for achievement needs to be incorporated into appropriate and effective forms of pedagogy, pedagogy described elsewhere as *authentic* (Newmann & Associates, 1996; Newmann, Marks & Gamoran, 1996; Newmann, Secada & Wehlage, 1995). To characterize pedagogy as *authentic* is to differentiate it from forms of teaching that fail to demonstrate and evoke high standards of intellectual quality. Clearly, authentic pedagogy does not embody every feature of excellence in teaching. What distinguishes authentic pedagogy from other forms of pedagogy is its standards, which reflect the hallmarks of authentic human performance -- construction of knowledge, disciplined inquiry, and value (i.e., "real-world relevance") beyond documenting the competence of the performer (Newmann et al., 1995). Authentic pedagogy, as recent research has documented, is strongly associated with both social support for and high levels of authentic achievement (Louis & Marks, 1996; Newman, Marks & Gamoran, 1996).

Professional Community and the Intellectual Culture of Schools: A Conceptual Model

The theory we have sketched underscoring the need to move beyond affiliative social bonds toward more focused expectations for intellectual achievement leads to a central question: What characteristic of a school will facilitate intellectual affiliation among students? Our answer is school-wide professional community. Professional community, as we explain, by sustaining and being

sustained by an intellectual school culture, can offer a solid basis for social support for student achievement as well as authentic pedagogy.

Professional community among teachers centers on the intellectual mission of school (Louis, Kruse & Marks, 1996). Characterized by a shared sense of purpose, a focus on student learning, collaborative instructional activity, deprivatized instructional practice, and reflective professional dialogue, professional community supplies teachers with common norms and values geared toward high quality teaching and learning (Louis, Kruse & Associates, 1995; Louis & Marks, 1996). Intellectual quality distinguishes professional community from collegiality. The cordiality and cooperation associated with collegiality does not imply intellectually focused relationships with consequences for teaching and learning. But, in contrast, professional community centered on learning goals for intellectual quality infuses school policies, programs, and practices, and informs teachers' expectations for students' behavior and performance. Thus, social support for student achievement derives its intellectual focus from the strength of teachers' professional community.

The school culture deriving from professional community influences classroom processes (Bryk et al.; Newmann & Associates, 1996; Louis & Marks, 1996). Strong professional community generates social support for achievement among students, creating a normative environment in classrooms that encourages intellectual effort. To the extent that professional community shapes the school culture, we contend, it supplants the norms associated with bureaucatic forms of school organization (Rowan, Raudenbush & Chang, 1993; Sedlak et al., 1986).

Figure 1 summarizes our argument. Schoolwide professional community sets strong norms for learning, creating an intellectually focused culture in the school, which, in turn, reinforces and sustains professional community. The intellectually focused culture permeates classrooms in two forms: as effective teaching practice (authentic pedagogy) and as social support for achievement. Specific intellectual values developed in the context of professional community are manifest in teachers'

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authentic pedagogy, their expectations for student performance, the behaviors they model, and the attitudes toward learning they convey. Student achievement benefits from both authentic pedagogy and social support for achievement.

Insert Figure 1 about here

Research Questions

In addition to explaining the theory underlying social support for achievement, the point of this study is to show empirical results from restructuring schools that are consistent with the theory. We organize our data and findings around the following three research questions:

(1) To what extent does social support for student achievement depend on professional community?

(2) How does professional community create intellectual culture in schools?

(3) Through what mechanisms does an intellectual school culture sustain social support for achievement in classrooms?

Method

Sample and Data

To study successful school restructuring in the United States, the Center on Organization and Restructuring of Schools conducted a national search for public schools that demonstrated extensive restructuring of students' experiences, teachers' worklives, school governance, and the coordination of

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school and community resources. From some 300 schools identified in the search, the Center selected as its School Restructuring Study (SRS) sample 24 elementary, middle, and high schools, eight at each grade level. The schools represent 16 states and 22 districts. Most of the schools are in urban settings, and the majority enroll substantial proportions of economically disadvantaged and minority students.[2]

During 1991-1994, the Center staff collected an extensive battery of quantitative and qualitative data on the sampled schools, their organization, personnel, students, restructuring efforts, and classroom practices.[3] Of particular interest for this investigation are the survey data collected from 910 teachers and 5,943 students; classroom observational data collected from 175 teachers (including 4 observations each of 3 mathematics and 3 social studies teachers at each sampled school); essays written about 18 of these schools by 1,579 of their students; and 24 case studies (150-200 single-spaced pages in length) developed by the Center research teams, who spent two weeks at each sampled school (one week in the fall and one week in the spring of each school's study year).

Based on the rankings of the schools on an index of social support for achievement (described below in the section on measures), we selected a subsample of nine schools for close analysis. The subsample includes an elementary, middle, and high school at the high, medium, and low levels of social support for achievement. Appendix A contains profiles of these nine schools.

Measures

Professional community. Professional community captures dimensions of teachers' worklives that reflect their investment in the instructional mission of the school as a common and intellectually-oriented enterprise. Since the components and psychometric properties of the professional community measure have already been documented in considerable detail (Louis & Kruse, 1995; Louis, Marks & Kruse, 1995), we simply summarize them here. The professional community index includes five indicators ($\alpha = .69$).[4] These measures, composite variables constructed from teachers' responses to

survey items, are: (1) shared sense of purpose; (2) collaborative activity; (3) collective focus on student learning; (4) deprivatized practice; and (5) reflective dialogue. (See Appendix B for additional details on the construction of this measure and other measures used in the analyses.)

Authentic pedagogy. The measure of authentic pedagogy combines teachers' scores on observed classroom instruction and assessment tasks ($\alpha = .79$). The four standards for instruction (higher order thinking, depth of knowledge, substantive conversation, and elaborated communication) and the seven standards for assessment tasks (organization of information, consideration of alternatives, disciplinary content, disciplinary process, elaborated written communication, problem connected to the real world, and audience beyond the school) are derived from a more general set of standards for human achievement -- namely, construction of knowledge, disciplined inquiry, and value beyond documenting one's competence. (Appendix B contains a more detailed description of the standards. See also Newmann et al., 1995).

Student perceptions of school. We draw on the samples of student writing to determine how closely students' perceptions of their schools reflect the character of community among their teachers. Center researchers reviewed a sample of 792 essays from 18 of the 24 schools, recorded 3200 references to 14 school topics, categorized the references, and coded each one as either positive or negative.[5]

We found that when students were asked to describe the "best things" and "things that could be improved" about their schools, their responses varied almost systematically between schools, reflecting both the strength and the substance of teachers' professional community. Where professional community was vital, students tended to emphasize and praise the very features of their schools to which teachers gave priority. Conversely, where professional community was weak, students tended to focus on aspects of the school environment, such as the condition of the school building, to write on a seemingly random variety of topics, or to emphasize, as if by default, topics such as athletic programs,

cafeteria food, campus discipline, and specific subjects they liked or disliked.

Social support for achievement. The index measuring support for student achievement taps school and classroom dimensions of intellectually oriented affiliation, and it includes three components ($\alpha = .79$). Two components are constructed from student reports on surveys; the third is objectively derived from trained evaluators' observations of 604 lessons. Students provided opinions about (1) the learning environments of their schools, reporting the extent to which: teachers listen; peers do not interfere with their ability to learn; they make friends with peers from other social backgrounds; they feel respected; they do not feel "put down;" they can count on fair discipline and treatment ($\alpha = .66$); and (2) the academic support they receive in their mathematics and social studies classrooms, reporting the extent to which interactions are purposeful; teachers convey high expectations; teachers and peers offer support and respect, encourage effort and intellectual risk-taking; teachers help students learn; students help each other learn ($\alpha = .89$).

Center researchers provided the third indicator, rating the social support for achievement they observed in SRS mathematics and social studies classrooms according to established criteria (Newmann & Associates, 1996). The researchers also supplied written descriptions of the lessons they observed, including evidence for high ratings. High-support classrooms, according to the criteria, exemplified mutual respect among teachers and students and a shared expectation that *all* students could contribute to a rigorous intellectual enterprise. Low-support classes offered little incentive to concentrate, listen, ask questions or express one's views.

Analytic Approach

Our analytic approach aims at identifying the mechanisms through which the intellectual focus of teachers' professional community created social support for achievement. Although we investigate the relationship between professional community and social support for achievement primarily through

the analysis of qualitative data, we rely on quantitative measures of these dimensions to rank the schools and to show the strength of the relationship. Using a scatterplot analysis, we depict the link between professional community and social support for achievement for each of the 24 schools. We then draw on the samples of student writing to examine the extent to which students' perceptions of school reflected the character of community among their teachers.

Using case study data, we analyzed commonalities and differences across the nine schools in the subsample to illustrate how school culture and structure interact in ways that promote or hinder the formation of social support for achievement. To demonstrate how the intellectual culture reaches the classroom, we then focus on the observations from the classrooms we visited in the nine subsample schools. Drawing examples from classrooms where social support for achievement is strong, we compare the observations on three interrelated dimensions: the organization of students for instruction; teachers' support of academic rigor; and classroom norms. To understand factors associated with low social support for achievement, we analyze observations from classrooms where support for achievement proved weak.

Results

Social Support for Achievement and Professional Community (Research Question One)

The relationship between social support for achievement and professional community proved positive and strong. Where professional community characterized relationships among teachers, social support for achievement almost invariably existed among students. Conversely, when teachers failed to achieve professional community, social support for achievement also suffered. The scatterplot in Figure 2 represents that relationship graphically.

Insert Figure 2 about here

The exceptions to the close parallel between professional community and social support for achievement (primarily, schools E and O in Figure 2) are explainable. At Winema Elementary (E), for example, strong social support for achievement appeared to exist despite below average levels of professional community.[6] Students in many classrooms at Winema (including those targeted for the SRS study) were captivated by the novel instructional techniques applied by a group of teachers who participated in a vigorous program of professional development. However, these teachers represented only a segment of the Winema faculty. As a group, the Winema faculty were divided among those who subscribed to the program of professional development and those who did not. Since the SRS study observed and surveyed just the 5th grade of students in the elementary schools, but surveyed all the school's teachers, the disparity at Winema in the expected relationship between the divided professional community and social support for achievement is not surprising.

At Okanagon Middle (O), the level of professional community was considerably above average, but social support for achievement was slightly below. The Okanagon staff built a strong sense of community around their commitment to safeguard students' total well-being. They offered an interlocking system of social services, counseling, and instruction. Students' responses to the survey items on the learning environment reflected their teachers' success in creating a supportive school setting for all students. Building on this base of positive relations, staff pursued a second goal, to prepare all students to succeed in the most rigorous high school courses, by adopting forms of assessment, such as portfolios and school-wide performance events, that produced high scores on the scales of authentic assessment that composed a portion of our measure of authentic pedagogy.

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Teachers placed considerably less emphasis on reforming instruction, which they anticipated would evolve as work on assessment helped teachers clarify what they expected students to know and do. Consequently, the SRS observers evaluating social support for achievement in the Okanagon classrooms found the levels to be relatively low. The low ranking on observed social support counteracted students' positive responses to the survey items about the school learning environment, thus reducing the school score on the social support for achievement index.

But as a general rule, professional community among teachers proved an important precondition for social support for achievement. We cannot prove the causal direction, but the content of the items for each variable makes it unlikely that the level of social support for achievement could cause teacher professional community to be high or low. Nonetheless, the survey data do not fully explore *how* students experience the intellectual affiliation that we have termed social support for achievement: Do students attribute that support to the good will of individual teachers or to something larger, a purpose all teachers share? We gained considerable insight into how students experience their teachers' professional community (or its lack) by analyzing essays they wrote for the SRS.

Mirroring the Professional Culture

Students' essays confirmed that their perspectives on school were shaped by the values, norms and commitments of their teachers. Students focused on aspects of the school to which teachers also addressed their main effort and attention. Where professional community was strong, students wrote about an evident school purpose, describing themselves as participants influenced in specific ways. Conversely, in schools where professional community was absent or lacked a clear intellectual focus, students' essays addressed miscellaneous topics and emphasized social concerns. Beginning with examples from the schools where social support for achievement proved strong, we then provide counter examples from schools where social support for achievement was moderate or weak.

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Strong social support for achievement. Powerful social support for achievement clearly reflected a central school direction that focused teachers' efforts and influenced students' school experiences, particularly learning. At *Lamar Elementary School* (H), where staff developed a spiraling, inquiry-based curriculum around ecological themes, students described their classrooms as environments. They placed unusual emphasis on features of the classroom environment, such as the animals (lizards, turtles, frogs) that lived there, the computers, and the fact that they were not assigned to desks. They often mentioned their school garden, the "Life Lab," as well. "I think that it's good when they don't make kids sit at tables all day," wrote one fourth-grader. "Plus it's fun working with computers, history, shapes, books, people of all colors and other amazing objects and people." Overall, students at Lamar focused mainly on how they learned, making statements such as "we're open to class discussions on almost anything," "they like a lot of questions" and "we think in many different ways."

Red Lake Middle School (L) was organized around values fundamental to a democratic community. Not surprisingly, therefore, Red Lake students wrote more about equitable power relations than about any other topic. Their comments were overwhelmingly positive. One student, expressing the sentiments of many, wrote, "At [Red Lake] kids really are put first, and you have a lot of responsibility... [Red Lake] gives you a chance to really be mature with your school work." Concerning the policy that allows them to select their own courses in consultation with their parents and staff advisors, a typical essay noted, "it shows that our school trusts us." Students reported feeling empowered to learn in their classrooms, too. One student wrote, "the teachers here are very open to your ideas and thoughts." Another singled out a math teacher for special praise: "She has us knowing what we're learning, not just memorizing properties and spitting them out for a test."

Red Lake students wrote relatively little about specific classroom activities, but their comments on teachers emphasized teachers' effectiveness rather than their personal qualities. Their comments on

extracurricular programs, though few in number, also placed unusual emphasis on the educational value of these activities. One student, who served with staff on a school-wide curriculum committee, offered a critique of Red Lake's interdisciplinary "Connections" program, calling for a more "student-generated" curriculum based on problem-solving, and for parents to be involved in assessing students' work.

Cibola High School (V) placed its central emphasis on students "using their minds well." Students there wrote unusually much and generally positively about supportive social structures such as advisory, and about the educational climate of their school, which a typical essay described as "a comfortable environment to learn in." Students described positive relations with teachers, too, but their primary focus was what and especially how they learned in class. "One thing that I really like about my school is that the teachers make sure that you have a complete understanding of a task," wrote one student, for example. "They check your notes and say, 'Don't write anything in your notes that you don't understand, and if this means paraphrasing then so be it.' If you don't understand, then the teacher would probably review it again."

Students' comments on classroom activities reflected teachers' emphases on critical inquiry and in-depth understanding. Students linked social support at Cibola to a school-wide intellectual culture. "We are always given a chance to voice our opinions and views on different subjects," wrote one student. "In most classes students are made to feel like their opinion counts and that there are no stupid answers." Another student noted that "when you need to say or ask something no one makes fun of you, because you learn from your mistakes."

Moderate social support for achievement. Where social support for achievement was moderate, two patterns emerged: (1) Students' emphasis on learning was comparatively attenuated, diminished by other distracting concerns; or (2) schools succeeded in developing a highly affiliative environment, but paid little or no attention to building an intellectual culture.

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The essays written by *Ashley Elementary School* (C) students followed very closely the aggregate pattern of concerns expressed by students in all six elementary schools, with one notable exception. Students' comments on other students were less positive. Ashley students mixed positive and negative opinions evenly, whereas students elsewhere were mainly positive about their schoolmates. The results at Ashley hinted at a lack of harmony among students. Comments on teachers, conversely, were numerous and typical: positive, and split about three-to-two between comments on teachers' effectiveness and those about their attitudes and personalities. In deviating so little from the overall trends, the Ashley essays, paradoxically, were exceptional. That is, students revealed little about the content of Ashley's school culture, even though teachers there evidenced a distinct professional community. We return to this issue below.

Students at *Okanagon Middle School* wrote more than students at any other school about social structures. At Okanagon, these included semi-autonomous teaching "families," long-term homeroom placements, and a major social services component. Some students connected these features to learning, but most emphasized their social benefits (teachers know us well, act as our counselors and advisors). Looking beyond the structures, students recognized their teachers' commitment to create a caring, congenial environment. The following excerpts typify the essays:

In our school everyone is family and everyone knows each other. In our family, we're loyal to each other and we respect each other. The teachers in our family are very nice. If you have a problem, like social, educational or family problems, you can go to them and talk to them like they weren't even your teacher.

I think the best things about [Okanagon] are: we have a family of teachers that aren't just the ones who teach us our education, but they're like our friends who care on the decisions we

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make and what kind of choices are out there for us in the future. We have a family support service wing. I like it because student mediation is there for people who don't get along, [so] they talk to each other and get to know one another.... [And] if we get into trouble, we don't go to the principal's office, but we are sent to our homeroom teacher who is like our personal counselor.

We found in the essays from *Flinders High School* a different but similarly revealing pattern. As at Cibola, staff at Flinders made an explicit commitment to prepare all students for college, with Flinders going so far as to declare all of its courses "college prep." In their essays, Flinders students wrote copious praise of their teachers' effectiveness, but said almost nothing about what they actually did in class. They seemed to perceive positive classroom experiences less as a consequence of the school culture than of teachers' individual personalities and caring attitudes. "All my teachers are great, they're understanding and patient, and they are always willing to listen to our problems and help if possible," wrote one student, whose comments were typical.

Students regarded social support more in terms of teachers' personal interest in students and respect for social diversity. Predictably, the most frequent topics in Flinders' essays, in addition to teachers, were other students and extracurricular activities. The following excerpts touch on these common themes:

I'm happy about the multicultural classes. This makes class a lot more capable for learning made interesting. When you have many different backgrounds, you hear different views, opinions and ideas.

Another thing is all the clubs and the extracurricular activities they have for us. With all the

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clubs everyone has an alternative, all religions and cultures have somewhere to go where there's others from the same beliefs and stuff.

Low social support for achievement. Where social support for achievement was weak, students reflected no apparent school purpose and they often wrote about aspects of school that interfered with learning. At *Falls River Elementary School* (G), for example, students wrote mostly about the physical environment and other students, and on both topics their comments were predominantly negative. Their comments on power relations with staff also were negative -- not because teachers restricted their autonomy, but because the school failed, in students' eyes, to provide an orderly environment for learning. Many students felt unsafe on the playground and in the hallways of Falls River. "I think there is too much fighting," wrote one third-grader, whose simple remarks captured the dominant theme of his schoolmates' essays. "There should be more learning. There is too much people getting hurt."

Alongside their criticisms of the school climate, students actually expressed positive opinions about teachers, classroom activities, and the many extracurricular programs Falls River offered year-round. Mirroring the fragmentation of the Falls River staff, whose personal commitments to students' welfare lacked a unifying, normative culture, these affirmative experiences appeared to students as islands of support in a sea of discord.

Shining Rock Middle School (M) students complained often and bitterly about the physical environment in their school. One student, whose concerns were typical, opened his essay by writing," [Shining Rock] is pretty much alright," but followed with a litany of complaints: Lockers were "beat up" and had to be kicked open; shelves were "destroyed" and desks "messed up"; bathrooms were poorly equipped. The library passed muster, however; -- it was "good." Only teachers received as much attention in the essays as the building. Students were uniformly positive about teachers, but

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their remarks touched on social concerns nearly as often as they did on curriculum and instruction. Students wrote little about classroom activities, and gave mixed opinions. Lacking the vitality of a unified staff, Shining Rock's interior culture was not forceful enough to displace students' poor impression of the building.

Although *Island High School* (W) ranked very low on our index of support for achievement, students there wrote mainly positive comments on their school. The one exceptional topic, on which most comments were negative, was other students. Otherwise, the topics of choice at Island were extracurricular activities and teachers -- interests one might expect in a randomly-selected group of high school students. The essays showed no consistent emphasis or patterns of concerns, and so reflected the diffusion of effort that characterized Island's restructuring.

Summary. In short, student essays about their school enriched the data we used to draw conclusions about the culture of each school, particularly the nature of support for achievement. Even the few examples we cited suggest considerable variation in the support for achievement students experienced -- caring and personalism on the part of individual teachers at Flinders compared to a school-wide commitment to a distinctive intellectual program at Cibola; an emphasis on personalism at Okanagon compared to a climate of intellectual citizenship at Red Lake; a lively and stimulating environment for experiential learning at Lamar compared to the organizational problems at Falls River evident in students' comments about fighting and concerns for safety.

Professional Community and School Intellectual Culture (Research Question Two)

According to our argument, professional community shapes the intellectual culture within schools, including the quality of its pedagogy. To illustrate the relationship between social support for achievement, professional community, and authentic pedagogy we have ranked the SRS schools on these dimensions and displayed the rankings for the nine profiled schools (Table 1). Where

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professional community is strong, as the rankings on Table 1 indicate, the pedagogy tends to be of high quality and students experience a high level of support for achievement. Some departures from this general trend warrant our comment.

Despite a very high rank on social support for achievement (2) and a high rank on authentic pedagogy (5), Lamar ranks in the second quartile on professional community (7). If professional community does drive the intellectual culture at schools, Lamar's lower than expected rank may be somewhat surprising -- at least initially. The report of the field reseachers who visited Lamar offers some insight into this apparent anomaly. Lamar's structure of teaching clusters nurtured a deep loyalty to that unit, potentially overshadowing, if not diminishing, school-wide community. The intense "stress on individuality" at Lamar, teachers there noted, sometimes made arriving at consensus difficult. Nonetheless, all Lamar teachers shared a similar pedagogical philosophy and were commited to pursuing consensus -- often through a long series of dialogues in formal and informal settings. Unified pedagogically, interdependent organizationally, and integrated thematically, teachers at Lamar generated and sustained a distinctive intellectual culture. The powerful normative environment continually focused and reinforced the efforts of teachers.

In addition to the apparent anomaly at Lamar and the disparity at Okanagon Middle (noted earlier in the discussion of the scatterplot), two other exceptions are apparent -- lower social support for achievement than would be expected at Ashley Elementary and higher support than would be expected at Flinders. We provide insight into the discrepancy at Ashley below and at Flinders later in this section.

Insert Table 1 about here

Ashley teachers ranked very high on our indices of professional community (2) and authentic pedagogy (3) (Table 1). Given those facts, we would predict that social support for achievement also would thrive. In fact, rated on our measures of social support for achievement (8), Ashley dropped into the second quartile of our 24 schools. As we have noted, the essays by Ashley students provided little insight into the school culture, revealing only that students seemed not to get along together as well as students at other schools. Puzzled, we searched for other illuminating data, which we found by disaggregating our index of social support for learning.

Observing instruction at Ashley, Center researchers noted exceptionally strong support in the classrooms. Although somewhat tepid, students' responses to the survey items on classroom support seemed, generally, to confirm observers' ratings. But Ashley students responded most unfavorably to the items on the overall school environment. Combined with students' negative remarks about each other in the essays, the survey data suggested that social dissonance among Ashley's students mitigated teachers' positive commitments as a source of school culture. We located the source of the dissonance in Ashley's bifurcated organizational structure, a racially integrated "regular" track and a largely segregated "gifted" program. Ashley's school culture drew on competing sources: a unifying professional community based on sustained, targeted staff development, and a divisive organizational structure that placed about one-third of students in a segregated and privileged program.

To illustrate how professional culture can shape the school intellectual culture, we return to three schools with strong social support for achievement: Lamar Elementary, Red Lake Middle, and Cibola High. Distinctive school cultures enhanced the learning environments of these schools.

Building School Intellectual Culture

In schools where intellectual cultures flourished, teachers exploited structural innovations to support the intellectual ends they sought to achieve. Extended blocks of instructional time enabled

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teachers to plan complex, open-ended activities. Lessons lasted at least an hour, some for as long as two hours. Teachers at Lamar used time flexibly rather than breaking the day into discrete, subject-specific chunks. At Red Lake, a 70-minute period was standard; Cibola employed two hour interdisciplinary instructional blocks. Projects often extended over two or more class periods. Some, like the "City of the Future" project at Lamar comprised many weeks of lessons and activities.[7]

Core curricular experiences contributed to the identity of each of these schools and unified their students in a sense of school membership. Lamar students were connected through a school-wide environmental theme. Interdisciplinary "Connections" courses brought Red Lake students together, while participation in course selection, service learning, and student government enfolded them in a kind of academic citizenship. Core curricula in humanities and mathematics/science were among several academic experiences shared by all students at Cibola. All three schools used mixed-grade classes.

While structural innovations offered potential support for improving the quality of student learning, without professional community they were unable to generate intellectual school cultures. At Flinders High, for example, students also experienced some blocked classes and common curriculum elements. Flinders staff had moved to build unity and coherence into their instructional program by organizing themselves into broad-fields departments that crossed traditional subject-area domains, and some teachers who had students in common had begun to develop cross-disciplinary partnerships. Additionally, about 20 percent of the students participated in self-contained "houses" which featured flexible schedules and themed curricula.

The teachers' belief that all Flinders students could reach the highest levels of academic achievement was encapsulated in their declaration that all classes were college preparatory: nonetheless, they had not translated their commitment into specific statements of what college-bound students must know and master. Flinders' teachers were no less committed to their students than were

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staff at higher-support schools, but their efforts lacked the vital synergy provided by a strong, focused professional community. Schools like Flinders lacked a normative intellectual culture shaped by teachers' shared responsibility to a vision of what their school should be and do.

At Lamar Elementary, Red Lake Middle, and Cibola High, the normative culture of the professional community was pervasive. Such norms provided the leverage that made their innovative structures so powerful. Structures were the tools with which staff enacted their shared beliefs about teaching, learning, and achievement. The following examples illustrate how the intellectual culture built by the professional community interacted with structure at these schools.

Environmentally focused experiential learning: Lamar. Teachers at Lamar adhered to a philosophy of constructivist learning which permeated their instruction. The curriculum was organized around an environmental theme. Major team projects such as the "City of the Future" model and ecology research extended the classroom into the world at large.

Within their classrooms, students of different ages, backgrounds, and abilities worked together every day, and they saw their teachers do the same. During the "City of the Future" project, students collaborated in commissions, such as those for transportation and utilities. In the "Life Lab," students shared resources with other teams. Thus, when interdependence became an explicit focus of instruction in their studies on the ecologies of various environments, students' understandings were enhanced by their daily experiences of school. Lamar teachers fully exploited innovative structures and resources to shape intellectual school culture.

Forging community linkages: Red Lake. Teachers at Red Lake focused on building a caring democratic community of learners. Through strong curricular connections with the external community, Red Lake provided students with opportunities to learn experientially, apply their knowledge, and to experience social interdependence and reciprocity. The year-long interdisciplinary Connections courses exemplified this approach. Cultural Connections, the 6th grade course, focused

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on cultural diversity in both the local and world community. During 7th and 8th grades, as part of their Connections courses, Red Lake students participated in community service learning and mentorships. Building on students' interests, these programs attempted to integrate all Red Lake students with the civic community beyond school.

Parent involvement at Red Lake reinforced home-school linkages around students' education and connected parents with one another. Parents served in various volunteer capacities and sometimes raised funds for school projects. As stakeholders in the school, parents (and students) participated in governance structures at Red Lake. The "house" advisory system served not only to build community within the school, but also between the school and the larger community, particularly parents. Advisory group leaders visited the homes of their entering 6th grade students to meet their parents and to open lines of communication. Advisors and parents kept in contact regularly during the school year about course selection and other matters. In short, the courses, parent activities, and advisory system offered structural support for the norms of democratic community, which in turn supported student achievement.

Using their minds well: Cibola. Cibola High faculty acted in concert to teach students to "use their minds well" and to develop among students a sense of responsibility to each other and the society at large. Mutual investment in these commitments supplied vital support and energy in relationships among teachers and students. Students entered Cibola High knowing that they were embarking on a serious venture in learning that would continually call upon their best intellectual efforts. Together, they experienced interdisciplinary instruction in core subjects between seventh and tenth grade, and worked toward the academic review that would determine whether they were admitted to the Senior Institute (grades 11,12). The Senior Institute required Cibola students to take one college course, complete an internship, assemble portfolios for pre-graduation review, and present a final senior project.

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Multiple structural supports sustained Cibola students within a school culture strongly normed for intellectual rigor. These supports included teacher teams, who shared responsibility for students over two years, and small advisory groups that met daily. Moreover, Cibola's norms served to foster an ethic of collective responsibility among students. To merit a distinguished academic grade, for example, a student must have actively assisted classmates in their learning.

Summary. The shared direction and emphasis toward which each school-wide professional community directed its collective energies shaped school cultures that were both distinctive and intellectual. These school cultures made demands on students. To succeed required students to exert themselves intellectually and apply themselves steadily to the tasks at hand, but teachers stood ready to help and mutually engaged peers assisted each other in the effort. Thus, the intellectual culture provided the grounding for student affiliation. To achieve the desired intellectual ends for students, moreover, teachers capitalized on available resources and developed or adapted structures energetically and imaginatively.

School Intellectual Culture Pervades the Classroom (Research Question Three)

In this section we attempt to identify the mechanisms through which the intellectual cultures associated with professional community sustained social support for achievement in the classroom. Previous SRS studies have linked school professional community to high levels of authentic pedagogy and to teachers' taking collective responsibility for student learning (Louis, Marks & Kruse, 1996; Louis and Marks, 1996). School professional community influenced the classroom in these ways and fostered classroom cultures marked by social support for achievement. Basing their instruction on intellectual standards promoting authentic pedagogy, teachers presented students with work that demanded their best intellectual efforts. Teachers' expectation that all students perform at high levels provided a catalyst for social support for achievement. To achieve ambitious intellectual goals,

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students had to try hard and be able to turn to their teachers and peers for help. Thus, the shared focus on intellectual work helped create a classroom culture where social support for achievement was normative.[8] Three features distinguished these classrooms: the organization for learning, intellectual rigor, and strong norms for effort and collaboration.

Students Organized for Social Support

Organizing their classes around a broad central question or a set of problems, teachers often grouped students in pairs or clusters of three to six to work together on solutions. Whole-class discussions centered on ideas the groups proposed, with students also applying their learning from previous individual work. Some classes employed a "workshop" format, in which students worked independently with assistance as needed from peers and/or the teacher. Combined formats characterized other lessons -- for example, discussion of a central problem, followed by group work, then reports from the groups back to the whole class.

At Lamar Elementary School, for example, a class of fifth and sixth grade students had just returned from a week-long outdoor education trip to a wilderness area, where they hiked with resident naturalists to learn about various habitats and ecology concepts. Back in the classroom, students identified words and phrases to describe the wilderness and urban environments. To do this, they first brainstormed as a large group, then expanded the lists working in pairs. Each pair then contributed the items they thought were the most vivid and accurate to definitive class lists. Finally, back in small groups, students sorted the items from the lists on a Venn diagram consisting of two partially-overlapped circles, one for descriptions of the wilderness, the other for the city, and the overlapping portion for items that could pertain to either environment. The diagram was to be used as a resource as students developed essays and visual displays documenting the relationship between the city and its wild environs.

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Teachers' Supporting Intellectual Rigor

Teachers set the intellectual tone for the classroom by relentlessly demanding students' best efforts. Frequently using phrases such as "What does that mean?" and "How do you know that?" teachers required students to back up their assertions and generalizations with evidence or explanation. Whenever possible, teachers invoked school or classroom ideals -- e.g., "quality over quantity," "student as worker" -- transforming these through their own example from slogans to behavioral norms.

A mathematics teacher at Red Lake Middle (grade 8) stressed to her class the importance of their own reasoning:

> I want you to get in touch with your own thinking. How do *you* think about this? Don't make it a task of getting a paper in that has the right answers on it. Try to let go of that. Try to see how *you* think about a problem. That's the only thing that develops self-confidence in math, in a mathematics course. How do you think about it? And you *can* do it.

Supportive teachers were attentive to individuals, even within larger classes. During each class period, they interacted personally with as many students as possible. The teachers circulated among student groups to observe, question and coach. They listened carefully to students, inquiring to elicit more information about their thinking. When students sought their help, the teachers listened actively; that is, they responded by restating and clarifying the problem, helping the students to think through to a solution, rather than providing one on demand. To keep students from falling behind, high-support teachers urged them to identify where they were having trouble and to seek help from the teacher or their peers.

Clearly articulating norms for productive group work, the math teacher at Red Lake Middle

framed potential difficulties as shared challenges -- part of a learning process -- rather than as deficiencies of individual students:

Let me remind you, I'm dependent on all of you letting me know if you have questions.... I hope you're not hesitant any more to ask in your groups. I listen carefully to what you're saying and it doesn't seem to me that you're putting anyone down or anything else. But try to facilitate what goes on in your group the best you can. Please try to take part. If there are still questions, please put them up on the board [to be addressed in whole-class discussions]. Also remember that I am available outside of class. If there's something that's still bugging you, please come in and let's get it straightened out. One little hurdle is a lot easier to get over than ten all stacked together. And let me remind you that this time is to be used very productively. Try to define in your group what needs to be done first...

Facilitating wide participation in classrooms, supportive teachers also made special efforts to ensure that all students felt comfortable contributing to class work -- for example, by putting questions to boys and girls alternately, using structured discussion formats that allowed all students equal chance to lead, or asking bilingual students to translate for classmates who felt more comfortable speaking in a language other than English.

Classrooms with "Workshop" Norms

In schools where the intellectual culture was strong, classrooms often functioned as workshops; that is, teachers structured the environment so that the activities could be flexible and continuous. Non-academic business such as attendance was handled quickly and efficiently, often by the students. To take attendance at Lamar Elementary, for example, as students entered the classroom, they flipped a

card bearing their name and picture from front to back. Because the lessons themselves were not highly routinized, teachers frequently solicited students' ideas about how to proceed with them, thus reinforcing the need for students to reflect both on their own understanding and on effective problem-solving in general.

The classroom culture was such that students knew they were engaged in a *lesson* as well as an activity. That is, students had a clear enough sense of the problem at hand to decide for themselves which ideas and behaviors were appropriate and relevant, and which were less so. In this way students became self-regulating, able to reinforce the teacher's expectations and to take intellectual risks in a climate of mutual enterprise.

In many mathematics classes, for example, students worked collegially to solve problems. To do this, they had to conjecture, estimate, reason and explain, and they had to assess their progress continually. Using symbolic notation and appropriate technical terminology reinforced the seriousness of their work. At Red Lake Middle, students reviewed homework problems in small groups, copying disputed items on the blackboard where the whole class could consider them. Before they returned a test paper to their teacher, students described on a coversheet any areas where doubts or questions persisted.

Teachers organized these high-support classrooms so that students spoke directly to one another about the problems at hand, working through them together rather than depending on the teacher as an all-knowing intermediary. Sometimes students helped each other by repeating phrases or questions the teacher had modeled; at other times, they considered ideas in novel ways. Students who struggled with a given task seemed reassured by the empathy and assistance of their peers.

At Cibola High, for example, an observer noted how a student who had nearly completed a project -- the design of a free-fall ride for an amusement park, including all relevant calculations -- spent most of a class period helping classmates who were having difficulty.

"Lisa helped Monique as she was working on the deceleration portion of her ride," the observer wrote.[9] "Monique was having trouble thinking of deceleration as negative acceleration. They had an extended conversation about this, and Lisa questioned Monique in much the same way [the teacher] questions students."

In the same class, the observer reported,

Marina explained initial velocity, velocity and final velocity to Yvonne. Marina questioned Yvonne to get her to explain it back to her, much as [the teacher] might, although [the teacher] doesn't usually explain it first.... Marina confided to Yvonne that she also couldn't understand the formula at first, but when she figured out that the initial velocity for the free fall was the initial velocity for the deceleration, then she understood it. She explained it all again, pointing to appropriate parts of a drawing the class had designed together. Then she asked Yvonne to explain it back to her. Yvonne said, "Oh, I get it," and explained it quite clearly.

What's Missing in Lower-Support Classrooms?

Social support for achievement, as we have noted, was highly correlated with authentic pedagogy. Teachers who cultivated intellectual culture in their classrooms did so initially by posing complex tasks that students could best resolve by thinking and working together. In fact, by its definition social support for learning must include a challenge that poses intellectual risks for students, who are likely to master the tasks only after some initial puzzlement (and likely errors). Not surprisingly, therefore, lessons at schools that scored low for social support for achievement tended also to score low on scales of authentic pedagogy.

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Nonetheless, we did find lessons that posed a reasonably challenging task to students but failed to generate strong social support for learning. These cases of missed opportunity point up the interdependence of the three factors -- organization for social support, intellectual rigor, and norms for effort and collaboration -- that characterized classrooms where students were immersed in an intellectual culture. Promising lessons in low support classrooms tended to fall into two broad categories: those in which a teacher's efforts to build social support were thwarted by poor organization, and those in which poorly modeled or ambiguous expectations undermined a formal structure for support, such as pair work guided by explicit rules of cooperation.

Students not organized for support. In a seventh-grade social studies class at Shining Rock Middle, the teacher introduced a lesson on medieval Europe by showing slides of artifacts from that era on the contemporary English countryside. Displaying a photograph of a castle, he asked, "Was this a good location for a castle? Why?" He then distributed copies of a short booklet on the feudal system (written by a colleague). After a student read the introductory paragraph aloud, the teacher directed students to finish the booklet silently and to respond in writing to a set of related questions. Although students could find ready answers for most questions in their textbook (e.g., define "vassal"), a few questions required them to develop explanations (e.g., "Why was it difficult for kings to keep law and order?"). The last item asked students to make a diagram of the feudal hierarchy, sovereign to serf, which the text described but did not present as a whole.

Through these items and the teacher's queries about the slides, students encountered issues of reasonable depth and complexity; but students had no incentive to help one another meet these challenges. During the slide presentation, students sat alone and responded to the teacher's questions individually. They subsequently moved into pairs to complete the reading and worksheet, but without apparent reason. They had no real shared responsibility, nor was their work organized around a larger

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class endeavor, as it would have been, for example, had each pair of students been asked to contribute a thorough presentation of one social class to a group model of the feudal hierarchy.

Structures of support lacking intellectual content and high expectations. A more deliberately structured pair activity occurred in a ninth-grade social studies class at Island High. To begin this lesson, the teacher reminded students to follow "cooperative skills" guidelines that were posted in the room. She then distributed copies of a newspaper article about Nelson Mandela's rise from prison inmate to president of South Africa. After reading the article to one another and responding to written questions about it, students then composed an imaginary letter from the incarcerated Mandela to then-president Bothe, in which they would argue for the abolition of apartheid. As students worked on these tasks, the teacher moved from pair to pair, asking questions and giving directions. For example, she initiated an exchange with one pair by asking, "What's going on in South Africa?"

Student 1: It's bad.

Teacher: Why is it bad?

Student 2: They're segregated.

Teacher: What is the policy? (pause) What does segregation mean?

Student 2: It means...I don't know.

Teacher: You know.

Student 1: Apartheid.

Student 2 (To Student 1): You could have told me that.

Teacher: I'll let you think about that. Don't give up.

On its surface, this lesson shows evidence of social support. Pairing students provided them

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with the opportunity to both read and hear the news article -- possibly an aid to comprehension -- and to draw on their combined knowledge and skills in composing the letter. But the excerpt above reveals how thin the evidence really was. Combining knowledge in this example turns out to mean one student supplying a (simplistic) answer for the other. The teacher's effort to draw out the students' knowledge and to encourage their efforts were perfunctory. In short, while students had some opportunity to cooperate, the teacher failed to model and communicate high expectations for their performance.

As these examples show, some elements of social support for learning were evident in classrooms even in schools that ranked near the bottom of the original 24. But in high support schools, teachers' efforts to cultivate social support for achievement found coherent expression in relation to the larger intellectual goals. In other words, in high-support schools, form (classroom organization, intellectual rigor, and performance norms) followed function (attaining school-wide goals of intellectual quality). We illustrate this point with reference to the following social studies lesson at Lamar Elementary.

Interdependence and inquiry at Lamar. During their long unit on the "City of the Future," a class of third and fourth-grade students canvassed the neighborhood surrounding their school to determine its current population. Having completed their walking study the previous day, one team of sixteen students worked in groups of two or three to transfer data from hand-held maps to a master map made of canvas (other teams were at work on other aspects of the project, such as measuring the perimeter and area of parcels). Each team was responsible to plot one street, by writing the number of households (denoted by front doors) in each building on a sticker and placing the stickers at appropriate locations on the map. When the map was complete, the teacher turned students' attention to the task of computing the total number of persons living in the neighborhood. She asked for their suggestions. One student said, "We could ask all the classmates the number of people in their households, and figure out the average, and use that." After some discussion and a poll of their own household sizes, the team

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decided to estimate the population at three members per household. Back in their groups, students tallied the number of households in their assigned street and computed the estimated population. The lesson concluded with each group reporting its figures back to the team.

Social support for learning was built into the structure of this lesson: Students worked in groups to contribute new knowledge to their team, which in turn developed one aspect of a larger class project. The structure created the necessary social space for a culture of openness and collegiality, in which it was natural for the teacher to solicit and employ students' ideas and for students to depend on one another to complete tasks. Teachers' shared commitment to Lamar's ecological curriculum theme gave purpose to the structure of teaching pairs, multi-grade grouping and open classrooms. At both levels, form and function coalesced. Staff developed social support for achievement not in some general sense, but as it was understood and constructed within their professional community.

Discussion

Redesigning structures to promote student affiliation with school is a difficult task. Holding to intellectual purposes in the process may loom as a formidable challenge. We have argued that the two aims -- developing an affiliative environment for students and involving them in challenging and engaging work of high intellectual quality -- are not at odds. Nonetheless, working collectively to achieve this ambitious two-pronged goal takes time, patience, and hard work.

We examined the sources and the mechanisms that sustain intellectually focused affiliation, which we defined as social support for achievement. Our conceptual model situated social support for achievement in relationship to professional community, the intellectual culture of schools, and authentic pedagogy.

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Drawing evidence from both quantitative and qualitative data, we found that teachers' shared beliefs and attitudes about students and student learning shaped the school culture. Social support for achievement, moreover, ultimately depended on the degree and tenor of professional community among teachers. When substantial numbers of students wrote about their experience of the school they attend, for example, their writing reflected the presence or absence of an intellectual culture. When an intellectual culture was present, students described the culture as they perceived it, reflecting the direction and emphases of the professional community.

The intellectual culture created by professional community depended on the quality of specific elements -- the norms, values, and commitments shared by the school's teachers. These elements grew out of the standards for the intellectual quality of teaching and learning that teachers had identified, often through searching and ongoing discussions. As teachers worked together both to maintain high expectations for all students and to provide all students with high caliber learning experiences, they inevitably elevated the intellectual culture in their schools. Although such a collective investment was consuming, teachers ultimately reaped its rewards -- students performed at high levels, teachers' sense of efficacy increased, and the intellectual culture teachers created provided them with energy and support.

When the intellectual culture of schools reached the classroom, social support for achievement occurred in the context of authentic pedagogy. Teachers designed challenging learning experiences and organized their classrooms in ways that generated social support for achievement. Purposeful intellectual activity characterized these classroom environments. In a climate of mutual respect and trust, students worked together helping each other achieve the ambitious intellectual goals teachers set for them. While expecting students to expend their best efforts on the work of learning, teachers stood ready to help them in the endeavor.

Our findings lead us to conclude that social support for achievement derives not from any single technique or innovation, but from a coherent integration of teachers' purposes within a shared intellectual mission. Working to develop and enact shared standards to assure high quality in student learning and professional practice, teachers and administrators can shape an intellectual school culture. Sustained and focused professional development, interdependent work structures, time and space for dialogue, and openness to external review can allow such a culture to flourish.

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Technical Notes

[1] Principals at nominated schools were asked to respond 'yes' or 'no' to the following items pertaining to communitarian features in place at their schools: (1) Do students participate in community-based learning? (2) Do students relate to adult mentors, either teachers or persons outside the school, in a long-term programmatic way? (3) Do students serve as and have access to peer tutors? (4) Do staff function in extended roles with students that involve advising and mentoring? (5) Do teachers work closely with parents and human service professionals to meet student needs? (6) Has the school been divided into schools within schools, divisions or houses? (7) Does the school have a systematic program for parent involvement in the academic life of students that goes beyond the normal activities of PTO, parents' night, and attendance at extracurricular events? (8) Does the school have formal mechanisms for coordinating with community agencies offering services dealing with child care, drug and alcohol abuse, family disruption, homelessness, sexual abuse, teen pregnancy, crime and delinquency, economic welfare assistance and parental employment and training? (9) Does the school participate in an external mentoring program, such as "I Have a Dream," which follows students for several years?

[2] Compared to the universe of public schools, the schools in the SRS sample are larger, averaging 777 students vs a national average of 522; and enroll more minorities (20.6 percent of the SRS students are Black vs 16.3 percent of students nationally; 21.7 percent Hispanic students vs 11.8 percent nationally). About 37 percent of the SRS school students receive free or reduced lunch, compared with 56 percent nationally. NAEP achievement levels for SRS elementary and middle schools are at or above the national average; for high school students, NAEP achievement levels are lower -- attributable, we suspect, to most of the SRS high school students being in 10th grade, but evaluated on tests normed for 12th grade. (For additional comparative information on SRS students, teachers, schools, see Marks, 1995; Marks & Louis, 1995).

[3] See Newmann and Associates (1996) for additional information on the study, sample, and data.

[4] Alpha (α) refers to Cronbach's Alpha, which assesses the reliability, i.e., internal consistency, of a measure constructed from two or more components. Cronbach's Alpha is on a 0 to 1 scale.

[5] Essays written by students mainly in grades 4, 8 and 10, were collected and scored on a modified NAEP scale by trained readers as a baseline measure of writing ability for the SRS. We then read about 45 essays from each of eighteen schools, and summarize students' responses by organizing them into fourteen topics (for example: "teachers," "classroom activities," "power relations," and "social structures") across four categories ("Curriculum and Instruction," "Administration," "Social" and "Pabulum"). If a student wrote that she liked to learn about science, for example, we recorded her statement as a reference to the topic "subjects" under the category "Curriculum and Instruction". If she wrote that she liked to learn by experimenting in science, we recorded a reference to "classroom activities" under "Curriculum and Instruction". If she wrote that she had fun doing experiments with friends in the class, we still recorded it as a reference to the topic "classroom activities," but under the category "Social". Each comment was also recorded as either positive or negative. The categorical reading was accomplished through the persistent and careful efforts of Dayle K. Haglund.

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[6] All school names are pseudonyms.

[7] The "City of the Future" focuses on several blocks in the area surrounding Lamar, the locale of the futuristic city students worked to design. The project entails building a physical model of the area as it might look in 100 years, including the landscape, buildings, and public use areas. Buildings are designated for various purposes, such as housing, industry, services. In addition to the physical model the students are designing, displays prepared by various commissions (e.g., transportation, buildings and safety, history and museums, imagination, communication, agriculture, environmental, and social services) discuss issues and recommend how the neighborhoods should be built. Students are divided into four sixteen-member teams, each responsible for a neighborhood within the area. Within each team are two students from each commission (each commission having eight members). Building housing is the first priority, a project handled by the entire group of students, rather than a particular commision. Before building the "City of the Future," the students study the present neighborhood area, taking walking tours, conducting a census of the number and kinds of buildings, and mapping the area to scale.

[8] Measured at the classroom level, the correlation between authentic pedagogy and social support for achievement is .45 ($P \leq .01$); measured at the school level, the correlation is .50 ($P \leq .01$).

[9] All student names are pseudonyms.

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Table 1
Social Support, Professional Community, and Authentic Pedagogy Ranking(of 24) for Profiled Schools

Grade Level	Name	Social Support	Professional Community	Authentic Pedagogy
Elementary				
	Lamar	2	7	5
	Ashley	8	2	3
	Falls River	16	18	23
Middle				
	Red Lake	4	6	4
	Okanagon	14	5	8
	Shining Rock	21	14	18
High				
	Cibola	5	1	1
	Flinders	10	20	14
	Island	22	24	13

Figure 1
Conceptual Model for Schoolwide Intellectual Culture

STUDENT ACHIEVEMENT

AUTHENTIC PEDAGOGY

SOCIAL SUPPORT FOR ACHIEVEMENT

INTELLECTUAL CULTURE IN THE SCHOOL

SCHOOLWIDE PROFESSIONAL COMMUNITY

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46

45
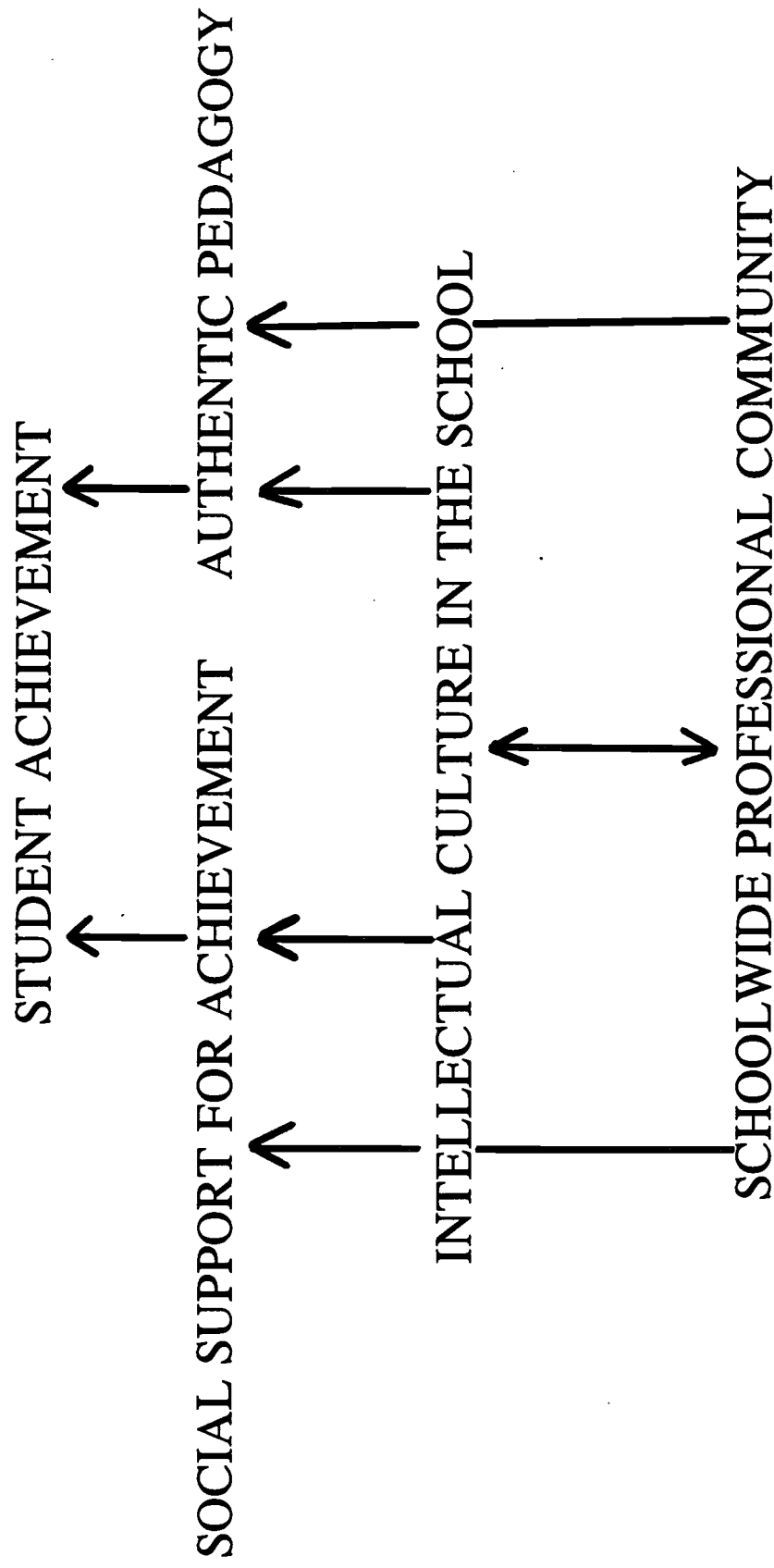
Figure 2
Professional Community and Social Support for Student Achievement

```
          ++----+----+----+----+----+----+----+----+----+----++
      3 +                                                      +
S       |                                                      |
O       |                                                      |
C       |                                                      |
I       |                                                      |
A     2 +                              A                       +
L       |                                                      |
        |                                                      |
S       |              E           H                           |
U       |                            L                         |
P     1 +                        D               V             +
P       |                          F        C                  |
O       |                                                      |
R       |                                                      |
T       |              S       B                               |
      0 +              PJ                                      +
F       |                                                      |
O       |        U         G   K           O                   |
R       |                    N IT                              |
        |                    X                                 |
A    -1 +                    M                                 +
C       |      W                                               |
H       |                  R                                   |
I       |                                                      |
E       |          Q                                           |
V    -2 +                                                      +
E       |                                                      |
M       |                                                      |
E       |                                                      |
N       |                                                      |
T    -3 +                                                      +
          ++----+----+----+----+----+----+----+----+----+----++
         -3       -2       -1        0        1        2       3
```

PROFESSIONAL COMMUNITY
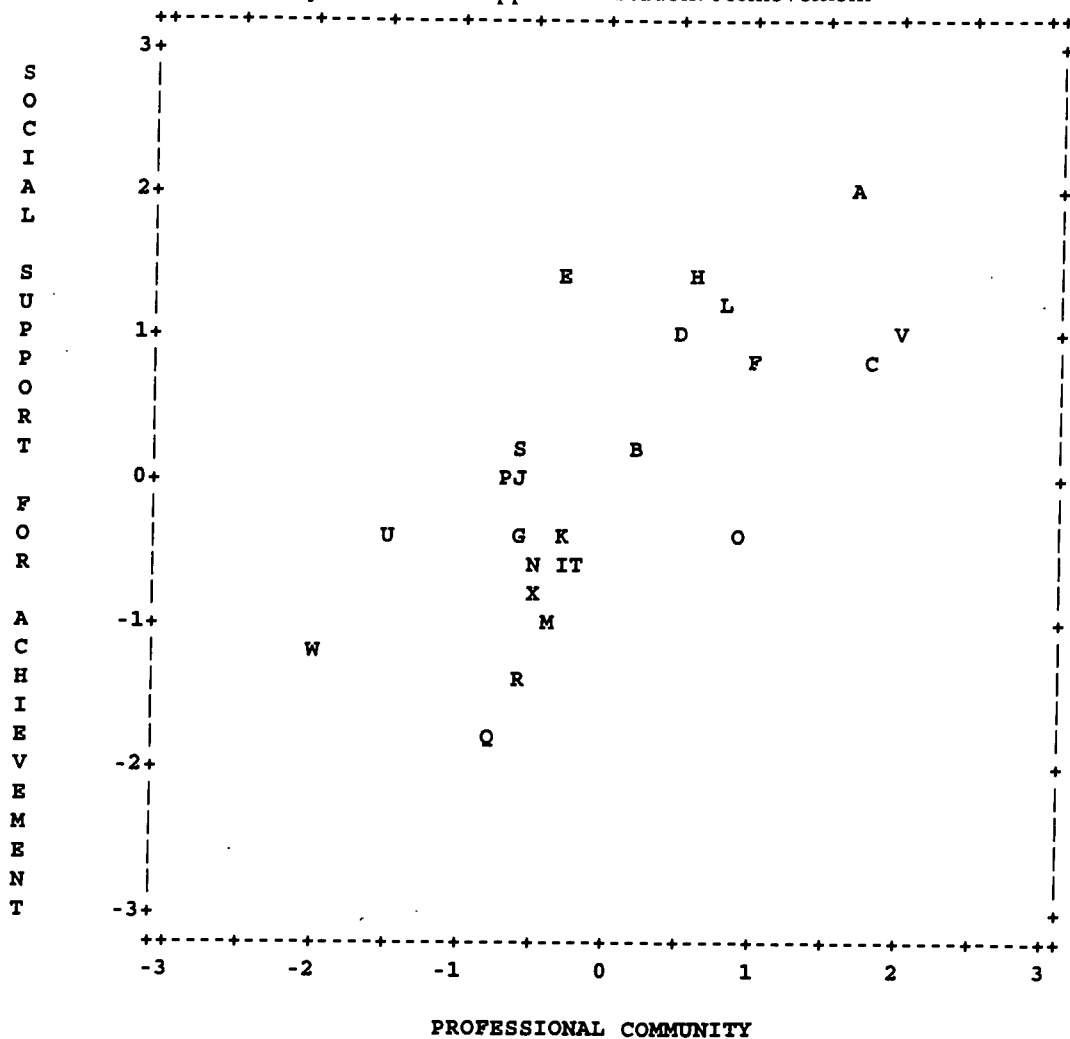
		Elementary		Middle		High
School	A	Humboldt	I	Morris	Q	Fremont
Key:	B	Sumpter	J	Selway	R	Wallingford
	C	Ashley	K	Baldwin	S	Flinders
	D	Eldorado	L	Red Lake	T	Huron
	E	Winema	M	Shining Rock	U	South Glen
	F	Careen	N	Copan	V	Cibola
	G	Falls River	O	Okanagon	W	Island
	H	Lamar	P	Ottawa	X	Marble Canyon

[a] Scores for social support for achievement are school averages for the index, standardized across the 24 schools. The index combines the reports of all students on school and classroom support with the researchers' ratings of the social support they observed in classrooms. Scores for professional community are school averages for all teachers in the school across the five dimensions of professional community, assessed by surveys, and standardized across the 24 schools.

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APPENDIX A

Overview of the Nine Schools

Elementary Schools

Situated on the grounds of a neighborhood elementary school in a West Coast metropolis, *Lamar Elementary* is a magnet and charter school emphasizing the open classroom model. Instruction combines self-regulated individual work with cooperative projects linked to a school-wide theme, "Survival: Humans and Their Interactions with the Environment." Field trips and a large school garden, the "Life Lab," facilitate some activities linked to the theme. The curriculum is somewhat different in each of Lamar's six pair-taught, multi-age classrooms, with greater emphasis on explicit disciplinary content in the older groups. Nonetheless, the theme can be seen spiraling through the curricula, as depicted on charts teachers have posted in their work room.

Parents created the school in the 1970s, capitalizing on a court-ordered desegregation plan to establish Lamar as an integrated magnet school. A state charter followed in 1993. Forty percent of Lamar's 400 students are white, 25 percent African American, 18 percent Hispanic and 14 percent Asian; twenty-six percent receive a federal lunch subsidy. Parents hold offices and a majority on Lamar's governing board, and they are active volunteers in enrichment programs, in classrooms, and as fundraisers. As a magnet school Lamar had secured unusual autonomy with respect to district regulations on curriculum and staffing, which was magnified by its charter status. Teachers essentially hire their own teaching partners, with the consent of colleagues and parents. From 1986 to 1993, faculty collaborated with a major computer manufacturer to field-test educational software. The company installed thirty computers, complete with software, monitors, and printers, in every classroom.

Ashley Elementary, located on the fringe of a small Southern city, participates in two district-sponsored desegregation schemes. One links it to several neighboring schools and assigns to Ashley all "gifted and talented" students within this cluster. The second makes Ashley a city-wide arts magnet. The combined effect of these circumstances is to split Ashley in two: a "regular" school, which includes the arts focus, with 450 students, 56-percent white and 44-percent African American; and a "gifted" branch, where the population of 200 students is 97-percent white. Overall, 37-percent of students are eligible for free or reduced-fee lunch. Straddling these divergent populations, the staff pursue restructuring through shared governance and a vigorous program of professional development.

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The principal is the linchpin in these efforts. On Ashley's governing council, she shares authority over budget, staffing and programs with teachers, support staff, parents and community representatives. But the principal's instructional leadership is chiefly responsible for school-wide emphases on writing across the curriculum, higher-order thinking and, to a lesser extent, whole language. Staff focus on these themes in their self-directed professional development. Activities include monthly study groups, extensive training in "Reading Recovery" and by the National Writing Project, and affiliation with Library Power, a national effort to move school libraries closer to the center of instructional activity. Ashley staff organize an annual professional conference for teachers in their region.

Staff at *Falls River Elementary*, located in an urban center of the Southwest, pursue a goal of "full inclusion" for their 450 students, of whom 25-percent speak Spanish exclusively, 50-percent are bilingual in English and Spanish but have "academic needs," and 82-percent qualify for a federal lunch subsidy. Every student is eligible for some type of categorical service, but the school does not sort them into classes for students of like backgrounds or needs. Instead, working in pairs or small groups composed of both regular teachers and those funded through categorical funds, the staff serves virtually all students in heterogeneous classrooms.

Teams are allotted two hours weekly, plus a half-day per month, for collaborative planning. Multidisciplinary themes and hands-on activities are evident in many classrooms. A previous principal had emphasized whole language instruction, and many teachers continue to embrace that philosophy; but some community leaders opposed it, and the principal evacuated under a hail of protest. The new principal sought to restore trust and collegiality by formalizing a shared governance structure and by involving staff in a series of reflective workshops on cultural diversity and conflict resolution. Falls River offers a full-day kindergarten, on-site childcare and adult education, including classes in English as a Second Language and toward the GED, and a year-round schedule of instruction and recreational activities. Seventy-nine percent of students are Hispanic, and 9 percent are African American.

Middle Schools

Red Lake Middle, serving a small Northwest city, is a school of choice in several ways. About one-third of its 800 students live outside its neighborhood attendance area, and because its district maintains an open enrollment policy, even those who live outside the neighborhood attend Red Lake voluntarily. "Choice" refers also to students' freedom to construct their own schedules and to participate fully in the life of the school. Students select eight classes for each of three twelve-week terms, largely unhindered by credit requirements or grade designations. In making their course

45

selections, students confer with their parents and a staff advisor, and all three parties have to agree to a schedule before a student can register. Only one class is mandatory: a daily, team-taught, interdisciplinary course called "Connections." All Connections classes include language arts and community-based service learning, and they are organized around a set of common "learning skills," but their content is largely determined by teachers. Other classes meet seventy minutes a day on alternate days. Student government, an elective course, manages a five-figure budget and sends two voting representatives to the school-wide steering committee. Each student in the government class represents a multi-age advisory "house" of about twenty students. Advisories meet thrice weekly; among their activities are school-wide projects such as collecting recyclable materials. The advisor serves as counselor, tutor and primary supervisor throughout a student's three years in the school. The Red Lake student body is 93 percent Caucasian, and 33 percent of students qualify for free or reduced lunch.

Shut down as a neighborhood school in 1981, *Okanagon Middle*, located in a large West Coast city, was reborn in 1990 as a magnet school dedicated to the proposition that students of all ancestries and socioeconomic stations can rise to high expectations for achievement and conduct. State restructuring grants paved the way for innovative uses of instructional time and resources. Community agencies, private foundations, and local governments enabled the school to develop a comprehensive social services program, including cultural enrichment "clubs" for students of various backgrounds. To organize its diverse population of 1400 students -- 37 percent African American, 33 percent Filipino, 20 percent Hispanic, and 54 percent eligible for lunch subsidies -- Okanagon assigns them in groups of about 150 to multidisciplinary teams of seven teachers, including permanently-assigned substitutes. Seventh and eight-graders are mixed. Six teachers serve as homeroom mentors to about 25 students each, and one teacher acts as administrator for the team. Teams set their own schedules, including an hour or more every day for teachers to meet and plan. Staff aim instruction toward six common performance objectives, which include an annual summary exhibition students make to panels composed of peers, teachers and other adults. School policies are based on six standards of conduct, including "focus on learning" and "respect the rights of others to learn."

Shining Rock Middle is located in an economically-stressed industrial suburb outside a Northwest city, and it serves 500 students, of whom 72 percent are white and 36 percent qualify for free or reduced-fee lunch. Shining Rock is restructuring grade by grade. Every grade-level team has 45 minutes a day to plan in common, but each team uses its time and resources its own way. Sixth-grade teachers plan a common, broad-fields curriculum and work in pairs, one teaching language

arts and social studies, the other math and science to the same students. Seventh-grade teachers remain essentially independent, although they use their joint planning time to exchange information about students and, to a lesser extent, about curriculum and instruction.

The eighth-grade group also teaches singly, but they all had adopted a district-sponsored "thinking skills" curriculum. In addition, the team has adopted an alternating-day schedule that enables them to extend some classes to seventy minutes. Twice a week, they use an extended period to teach a special class in basic literacy. A resource teacher and three aides provide additional, targeted assistance to eighty students across the three grades. Incipient partnerships with community and government agencies enable Shining Rock to offer counseling, prevention and mental health services to students and their families.

High Schools

An alternative school in a major Eastern city, *Cibola High* is the school of choice for 450 students, of whom 51 percent qualify for free or reduced lunch, 46 percent are African American and 38 percent are Hispanic. Cibola accepts new applicants primarily in grades seven, where they enter its two-year lower division, and nine, where its upper division begins. Each division comprises humanities and math/science departments and four cross-disciplinary teaching teams arranged so each teacher is responsible for only two classes of about twenty students, whom they meet in daily two-hour blocks. In addition, every staff member serves as advisor to about fifteen students, meeting daily for the two-year span of the division and acting as the primary adult contact for both the student and the student's family.

After tenth grade, students advance to the "Senior Institute," where they prepare for seven summary exercises according to personal learning plans negotiated with their advisors. The main exercise is an exhibition: Students choose seven of fourteen content-specific portfolios to exhibit before a committee of teachers and parents. Nine of ten students eventually graduate, but some need more than two years in the Institute. Staff at all levels plan curriculum around five "habits of mind," such as identifying diverse perspectives, considering alternatives, and sorting causes from effects. Staff govern school affairs mainly as a committee of the whole, under the guidance of two full-time directors.

Staff at *Flinders High*, located in a mid-size Western city, have as their motto "success for all." To pursue that goal in a school that is large (2300 students) and diverse (40 percent white, 22 percent Asian, 16 percent African American, 13 percent Hispanic, and 21 percent eligible for subsidized lunch), staff adopt a number of organizational strategies. One is to group virtually all classes

heterogeneously with respect to students' social background and prior achievement, and to offer all students a college-preparatory curriculum. A second is to emphasize multicultural themes throughout the curriculum. A third is to create subunits within the school for students with particular interests in technology and media, business, and fine arts. Although they teach single subjects, staff eschew traditional departments in favor of four interdisciplinary divisions; for example, the "Cultures and Literature" division incorporates English and social studies. In the tenth and eleventh grades, English and social studies teachers share common students. Several divisions, or groups of teachers within the divisions, maintain professional development relationships with university-based organizations.

Supported by state and private restructuring grants, Flinders is able to offer individual teachers financial aid and release time for professional development, to sponsor programs for the whole staff on topics such as multiple intelligences theory and alternative assessment, and to offer a full week of planning time in late August. Teachers also work with each other on governance committees in areas such as monitoring and evaluation, curriculum and instruction, and school environment. A restructuring committee, including certified and classified staff, parents, and students coordinates school-wide policies.

Island High is a comprehensive 9-12 school serving a mid-size city in the upper South. Of its 1200 students, 79 percent qualify for a lunch subsidy; 54 percent are Caucasian, 35 percent African American and 10 percent Asian, mostly recent immigrants. Island had responded to state and district restructuring initiatives by sub-dividing its staff into divisions and teams, adding a tech-prep magnet to its academic programs, assuming site-based management, opening a comprehensive social services center, and adopting state-mandated assessments that include portfolios and performance events. Island's leadership team consists of coordinators of instruction, social services, and the physical plant. Staff are distributed among two divisions -- the "preparatory" for grades nine and ten and the "transitional" for grades eleven and twelve -- and an array of alternative programs, including the tech-prep unit, which enrolls about 300 students, and options for students at various stages of academic and social "risk." Each division sends a representative to weekly meetings with the leadership team, and the "preparatory" group also sends members of its multidisciplinary teams of four teachers, who share about 120 students. Some teams have begun to experiment with thematic curricula, assessment by portfolio, and other practices they see as consistent with the state assessment program.

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Construct	Components	Cronbach's Alpha

• Teachers exhibit a reasonably focused commitment to authentic curriculum and instruction

• A focused school vision for student learning is shared by most staff in the school

(4) Deprivatized Practice   .62

• How often do two or more teaching colleagues regularly observe your students' academic performance, or review their grades or test scores

• Except for monitoring student teachers or substitute teachers, how often have you visited another teacher's classroom to observe and discuss their teaching since the beginning of the current school year

• Since the beginning of the current school year, how often has another teacher come to your classroom to observe your teaching (exclude visits by student teachers or those required for formal evaluations)

• How often since the beginning of the current school year did you receive meaningful feedback on your performance from supervisors or peers

(5) Reflective Dialogue   .68

• In a typical planning period when you meet with other teachers, about how much time is spent [on diagnosing individual students]? Teachers discuss problems of specific students and arrange appropriate help

• In a typical planning period when you meet with other teachers, about how much time is spent [on analyzing teaching]? Teachers discuss specific teaching practices and behaviors of team members

Social Support for Achievement

                                                                     .66
School

• How much do you agree with each of the following statements about your current school and teachers:

50

Discipline is fair
Students make friends with students of other racial
and ethnic groups
In school I often feel "put down" by other students
(reversed)
Most of my teachers really listen to what I have to
say
Disruptions by other students get in the way of my
learning (reversed)
My friends and I are treated fairly at this school
(reversed)

Classroom

• Observed social support.

Teachers demonstrate social support by conveying high
expectations for all students. They operate from the
conviction that all students can learn, including the importance
of trying hard and mastering challenging work. Rated on a 5-point
scale: negative, mixed, neutral (or mildly positive), clearly positive,
and strong.

Negative: Student "put downs" resulting from teacher or
peer comments; negative tone to class.

Mixed: Both negative and positive behaviors noted.

Neutral or mildly positive: Teacher verbally approves student
effort or work, but generally the approval is given to the most
articulate and skilled students.

Clearly positive: Teachers direct expressions convey high
expectations for all, mutual respect, the need to try hard
and risk initial failure; students respect and support each other.

Strong: High expectations, challenging work, strong effort,
mutual respect and assistance in achievement for all students.
Contributions from all students solicited and welcomed.

.86

• Do you agree or disagree with the following statements
about your social studies/math class:

If I have trouble with my work, my teacher gives me help
If I have trouble with the work, my friends give me help
The teacher believes I can succeed
Many students don't respect one another (reversed)

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Many students try to help one another learn
My friends and I help each other with our homework
The teacher expects me to do my best all the time
The teacher gives me extra help when I don't understand
 something in class

Authentic Pedagogy   .79

Classroom Instruction   .85
- Higher Order Thinking: Instruction involves students in
manipulating information and ideas by synthesizing, generalizing,
explaining, hypothesizing, or arriving at conclusions that produce
new meanings and understandings for them.

- Substantive Conversation: Students engage in extended
conversational exchanges with the teacher and/or with their peers
about subject matter in a way that builds an improved and shared
understanding of ideas or topics.

- Deep Knowledge: Instruction addresses central ideas of a topic
or discipline with enough thoroughness to explore connections and
relationships and to produce relatively complex understandings.

- Connections to the World Beyond the Classroom: Students
make connections between substantive knowledge and either public
problems or personal experiences.

Assessment Tasks   .79

- Organization of Information: The task asks students to
organize, synthesize, interpret, explain, or evaluate complex
information in addressing a concept, problem, or issue.

- Consideration of Alternatives: The task asks students to consider
alternative solutions, strategies, perspectives, or points of view as
they address a concept, problem, or issue.

- Disciplinary Content: The task asks students to show understanding
and/or use of ideas, theories, or perspectives considered central to
an academic or professional discipline.

- Disciplinary Process: The task asks students to use methods of
inquiry, research, or communication characteristic of an academic
or professional discipline.

- Elaborated Written Communication: The task asks students to
elaborate their understanding or conclusions through extended writing.

• Problem Connected to the World: The task asks students to address a concept, problem, or issue that is similar to one that they have encountered or are likely to encounter in life beyond the classroom.

• Audience Beyond the School: The task asks students to communicate their knowledge, present a product or performance, or take some action for an audience beyond the teacher, classroom, and school building.

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